



Capstone Project 1

CMU-SE 450

Project Plan

Version 1.1

Date: 20 December 2024

ResumeGeniusAI - AI-Powered Resume Builder & Analysis integrated with the Job Search Platform

Submitted by C1SE.02

Vo Van Minh
Doan Ngoc Dat
Tran Duong Truong
Ta Dinh Tai

Approved by Tran Kim Sanh

Project Plan Review Panel Representative:

Name

Signature

Date

Capstone Project 1- Mentor:

Name

Signature

Date

Project Information

Project acronym	RGA		
Project Title	AI-Powered Resume Builder & Analysis integrated with the Job Search Platform		
Start Date	26 Sep 2024	End Date	22 Dec 2024
Lead Institution	International School, Duy Tan University		
Project Mentor	Tran Kim Sanh, MSc Email: sanhtk@gmail.com Tel: 0987409464		
Scrum Master & contact details	Vo Van Minh Email: vovanminhv23@gmail.com Tel: 0917482032		
Partner Organization			
Team members	Name	Email	Tel
27211245990	Ta Dinh Tai	tadinhtai6868@gmail.com	0373444993
27211239967	Tran Duong Truong	tranduongtruong1623@gmail.com	0934970854
27211245795	Doan Ngoc Dat	datngoc252k3@gmail.com	0856794061

DOCUMENT INFORMATION

Document Title	Project Plan		
Author(s)	Team C1SE.02		
Role	Name		
Scrum Master	Vo Van Minh		
Product Owner	Tran Duong Truong		
Developer	Doan Ngoc Dat, Ta Dinh Tai		
Date	20 Dec 2024	File name	C1SE.02_ProjectPlan_RGA(v1.1).docx
URL			
Access	Project and CMU Program		

REVISION HISTORY

Version	Date	Comments	Author	Approval
1.0	26 Sep 2024	Initial Document	Vo Van Minh	
1.1	12 Dec 2024	Format Document	Doan Ngoc Dat	

SIGNATURE

Document Approvals: The following signatures are required for approval of this document.

Tran Kim Sanh, MSc <i>Mentor</i>	Signature	Date
Vo Van Minh Student ID: 27211226524 <i>Scrum Master</i>	Signature	Date

CONTENTS

1. Introduction	1
1.1 Project Name	1
1.2 Project Duration.....	1
1.3 The Goal Of The Project	1
1.4 Project Scope	1
2. Team Organize.....	2
2.1 Scrum team information	2
2.2 Roles and responsibility	2
3. Schedules	3
3.1 Overall schedules	3
3.2 Detail Schedules	4
4. Cost	10
4.1 Resources	10
4.2 Total cost estimate.....	10
5. Development Process.....	10
6. Development Environment	13
7. Communication & Reporting.....	14
7.1 Reporting Methodology	14
8. Risks	14
9. Deliverables	15
10. Configuration management.....	15
11. References.....	16
12. Attachment	16

1. Introduction

1.1 Project Name

The project's name is: **“ResumeGeniusAI - AI-Powered Resume Builder & Analysis integrated with the Job Search Platform.”**

Team members:

- | | |
|----------------------|---------------|
| 1. Vo Van Minh | Scrum Master |
| 2. Tran Duong Truong | Product Owner |
| 3. Ta Dinh Tai | Team Member |
| 4. Doan Ngoc Dat | Team Member |

1.2 Project Duration

- Project will be started on: Oct– 7 – 2024
- Project will be finished on: Dec– 22 – 2024

1.3 The Goal Of The Project

- Develop an AI-powered resume builder and analysis tool integrated with a job search platform, enabling users to create optimized resumes, receive personalized suggestions, and streamline their job search process.

1.4 Project scope

- This document provides an overview of the project to be developed. It allows users to utilize the chatbot's features to convey their intentions and instruct the assistant to do so. Users use it to read news and listen to music.
- Provide a comprehensive overall plan for each phase of software development based on selected processes.
- This document is prepared for senior leadership to make proposals.

Duration: 16 weeks.

2. Team Organize

2.1 Scrum team information

Full Name	Email	Phone number	Role
Vo Van Minh	vovanminhv23@gmail.com	0917482032	Scrum Master
Ta Dinh Tai	tadinhtai6868@gmail.com	0373444993	Developer
Tran Duong Truong	trandungtruong1623@gmail.com	0934970854	Product Owner
Doan Ngoc Dat	datngoc252k3@gmail.com	0856794061	Developer

2.2 Roles and responsibility

Role	Responsibility	Name
Product Owner	<p>Understand the user and customers with their needs.</p> <p>Collaborate with the development team.</p> <p>Manage the stakeholders.</p> <p>Describe the user experience and product features.</p> <p>Provides detailed user stories.</p>	Tran Duong Truong
Scrum Master	<p>Communicate the value of Scrum</p> <p>Teach the organization on Scrum to maximize business value</p> <p>Facilitate Sprint Planning, Daily Scrums, Sprint Reviews and Retrospective Meetings</p> <p>Create the Task Board and Sprint Burndown Chart at the start of every Sprint</p> <p>Attend all Scrum meetings</p>	Vo Van Minh

	<p>Preserve the integrity and spirit of the Scrum framework</p> <p>Maintain the focus of the Team</p> <p>Make the Team aware of impediments and facilitate efforts to resolve them</p> <p>Serve as a coach and mentor to members of the Team</p> <p>Respectfully hold the Team, Product Owner and Stakeholders accountable for their commitments</p> <p>Continually work with the Team and business to find and implement improvements</p>	
Team member	<p>Collaboration: Actively engage in team discussions and contribute to achieving sprint goals.</p> <p>Ownership: Take ownership of assigned tasks and ensure their completion within sprint timelines.</p> <p>Adaptability: Embrace changes, adapt to evolving requirements, and be flexible in approach.</p> <p>Communication: Maintain clear and open communication within the team, sharing progress and challenges.</p> <p>Continuous Improvement: Strive for excellence by learning from experiences and enhancing processes.</p>	<p>Doan Ngoc</p> <p>Dat, Ta Dinh</p> <p>Tai</p>

3. Schedules

3.1 Overall schedules

No	Phase	Iteration	Start Day	End Day
1	Initial	Project Kick Off Meeting	10 Aug	12 Aug

		Discuss about project idea	10 Aug	12 Aug
		Collect requirements	12 Aug	14 Aug
		Summary and analyze the requirements	14 Aug	15 Aug
		Planning meeting	15 Aug	16 Aug
		Research Technology	16 Aug	01 Sep
		Create Document	04 Sep	18 Sep
2	Development	Sprint 1	23 Sep	21 Oct
		Sprint 2	23 Oct	11 Nov
		Sprint 3	12 Nov	2 Dec
		Sprint 4	3 Dec	20 Dec
3	Release	Project's Meeting	20 Dec	21 Dec
		Final release	21 Dec	22 Dec

3.2 Detail schedules

No.	Task Name	Start	Finish	Effort	Member
1	Initial	03 Aug	10 Aug	H	All
1.1	Project Kick-Off Meeting, Discuss about project idea	10 Aug	12 Aug	H	All
	Kick Off Meeting	10 Aug	10 Aug	3h	All
	Brainstorm and discuss about project idea	11 Aug	12 Aug	30h	All
	Interview user	13 Aug	14 Aug	33h	All
	Summary and analyze the requirements	14 Aug	15 Aug	24h	All
	Planning meeting	15 Aug	16 Aug	6h	All
1.3	Research Technology	16 Aug	01 Sep	H	All

	Search for suitable technologies.	02 Sep	03 Sep	H	All
1.2	Discuss about Documents and create a Proposal, Planning	04 Sep	18 Sep	24h	All
2	Development	23 Sep	10 Dec	H	All
2.1	Sprint 1	23 Sep	21 Oct	250h	All
	Sprint 1 Planning Meeting	23 Sep	24 Sep	12h	All
	[Doc] Create Proposal Document	24 Sep	25 Sep	12h	Minh, Truong
	[Doc] Create Project Plan Document	25 Sep	26 Sep	6h	Minh
	[Doc] Create Product Backlog Document	26 Sep	27 Sep	12h	All
	[Doc] Create User Story Document	27 Sep	28 Sep	12h	All
	[Doc] Create Database Design Document	28 Sep	29 Sep	12h	Minh
	[Doc] Create Sprint 1 Backlog	29 Sep	30 Sep	12h	Minh
	[Doc] Interface Design Document	1 Oct	2 Oct	12h	All
	[Doc] Create Test Plan Document	2 Oct	3 Oct	12h	Minh
	[Doc] Create Test Case for Sprint 1	14 Oct	20 Oct	12h	All

2.1.1	Design, Code and Test the following Requirements/User Stories	29 Sep	20 Oct	H	All
	[Dev] Create Home Page	4 Oct	5 Oct	4h	Tai, Minh, Truong
	[Dev] Manage Resume	5 Oct	7 Oct	28h	Tai, Minh
	[Dev] Upgrade Resume	7 Oct	9 Oct	14h	Truong
	[Dev] Detecting Validity of a Field (AI model)	10 Oct	12 Oct	18h	Truong
	[Dev] Predict of a Field (AI model)	12 Oct	14 Oct	18h	Truong
	[Dev] Select Resume Templates	14 Oct	17 Oct	32h	Dat
	[Dev] Export resume in multiple formats	17 Oct	18 Oct	2h	Dat
	[Test] Create and Manage Resume	19 Oct	20 Oct	4h	Truong
	[Test] Resume Upgrade	19 Oct	20 Oct	4h	Truong
	[Test] Detecting Validity of a Field (AI model)	19 Oct	20 Oct	4h	Dat
	[Test] Select Resume Templates	20 Oct	20 Oct	4h	Minh
	[Test] Predict of a Field (AI model)	20 Oct	20 Oct	4h	Dat
	[Test] Export resume in multiple formats	14 Oct	15 Oct	4h	Minh

	[Test] Home Page			4h	Tai
2.1. 2	Release Sprint 1	20 Oct	21 Oct	H	All
	Sprint 1 Review Meeting	20 Oct	20 Oct	6h	All
	Sprint 1 Retrospective	21 Oct	21 Oct	3h	All
2.2	Sprint 2	22 Oct	10 Nov	H	All
	Sprint 2 Planning Meeting	22 Oct	21 Oct	6h	All
	Update Database Design Document	21 Oct	22 Oct	12h	All
	Update Interface Design Document	22 Oct	23 Oct	12h	All
	Create Sprint 2 Backlog	23 Oct	24 Oct	12h	Minh
	Create Test Plan for Sprint 2	24 Oct	25 Oct	12h	Minh
	Create Test Case for Sprint 2	5 Nov	8 Nov	12h	All
2.2. 1	Design, Code and Test the following Requirements/User Stories	23 Oct	10 Nov	H	All
	[Dev] Job Proposal	23 Oct	26 Oct	15h	Minh, Truong
	[Dev] Manage Company (Admin)	26 Oct	27 Oct	10h	Minh
	[Dev] Manage Job Description (Admin)	27 Oct	28 Oct	10h	Minh
	[Dev] Find Jobs	28 Oct	31 Oct	18h	Minh, Tai
	[Dev] Share to social platforms	31 Oct	2 Nov	22h	Dat

	[Dev] Check spelling and grammar errors	2 Nov	4 Nov	8h	Truong
	[Dev] Generate Summary from CV Data	4 Nov	5 Nov	4h	Truong
	Test Job Proposal	5 Nov	6 Nov	4h	Dat
	Test Manage Company (Admin)	5 Nov	6 Nov	4h	Tai
	Test Manage Job Descriptions	7 Nov	8 Nov	4h	Tai
	Test Find jobs	7 Nov	8 Nov	4h	Truong
	Test Grammar/Spelling Check	7 Nov	8 Nov	4h	Dat
	Test CV Summary Generation	7 Nov	8 Nov	4h	Minh
2.2. 2	Release Sprint 2	10 Nov	11 Nov	M	All
	Sprint 2 Review Meeting	10 Nov	11 Nov	6h	All
	Sprint 2 Retrospective	11 Nov	11 Nov	3h	All
2.3	Sprint 3	12 Nov	2 Dec	H	All
	Planning meeting	12 Nov	13 Nov	6h	All
	Update Database Design Document	14 Nov	15 Nov	12h	All
	Create Architecture Design Document	15 Nov	16 Nov	12h	All
	Create Sprint 2 Backlog	16 Nov	17 Nov	12h	Minh
	Create Test Plan for Sprint 3	17 Nov	18 Nov	12h	Minh
	Create Test Case for Sprint 3	23 Nov	1 Dec	12h	All

2.3.1	Design, Code and Test the following Requirements/User Stories	12 Nov	1 Dec	H	All
	[Dev] Admin Dashboard	12 Nov	14 Nov	8h	Minh, Truong, Dat
	[Dev] Manage Resume (Admin)	14 Nov	16 Nov	6h	All
	[Dev] Manage User (Admin)	16 Nov	18 Nov	12h	Minh, Tai
	[Dev] Candidate Evaluation System	20 Nov	22 Nov	12h	Minh, Truong
	[Dev] Manage Role & Permission (Admin)	22 Nov	24 Nov	14h	Minh, Tai
	[Dev] Change Template Theme Color	24 Nov	26 Nov	8h	Dat, Truong, Tai
	[Dev] Notification for Job Application	26 Nov	28 Nov	6h	Truong
	Test Admin Dashboard	28 Nov	29 Nov	4h	Minh
	Test Resume Management (Admin)	28 Nov	29 Nov	4h	Tai
	Test User Management (Admin)	28 Nov	29 Nov	4h	Dat
	Test Role and Permission System	23 Nov	24 Nov	4h	Tai
	Test Theme Color Customization	30 Nov	1 Dec	4h	Truong
	Test Notifications	30 Nov	30 Nov	4h	Dat

2.3. 2	Release Sprint 3	1 Dec	2 Dec	M	All
	Sprint 3 Review Meeting	1 Dec	2 Dec	6h	All
	Sprint 3 Retrospective	2 Dec	2 Dec	3h	All
2.4	Sprint 4	2 Dec	20 Dec	H	All
	Planning meeting	2 Dec	3 Dec	6h	All
	Create Sprint 4 Backlog	3 Dec	4 Dec	12h	Minh
	Update Code Standard document	4 Dec	5 Dec	12h	All
	Update Technologies_Stack	5 Dec	6 Dec	12h	All
	Create Test Plan for Sprint 4	6 Dec	7 Dec	12h	Minh
	Create Test Case for Sprint 4	9 Dec	17 Dec	12h	All
2.4. 1	Design, Code and Test the following Requirements/User Stories	2 Dec	20 Dec	H	All
	[Dev] Login	2 Dec	3 Dec	8h	Minh
	[Dev] Logout	3 Dec	4 Dec	2h	Minh, Tai
	[Dev] Register	4 Dec	5 Dec	4h	Minh
	[Dev] Change Password	5 Dec	6 Dec	4h	Minh, Tai
	[Dev] Edit Profile	6 Dec	7 Dec	8h	Tai, Minh
	[Dev] Resume Improvement Suggestions	7 Dec	8 Dec	8h	Dat, Truong
	[Dev] HR Registration	8 Dec	9 Dec	16h	Dat, Truong
	Test Login	14 Dec	17 Dec	4h	Truong
	Test Registration	16 Dec	17 Dec	4h	Dat

	Test Password Change	15 Dec	17 Dec	4h	Truong
	Test Profile Editing	9 Dec	10 Dec	4h	Dat
	Test CV Improvement Suggestions	9 Dec	17 Dec	4h	Tai
	Test Logout	9 Dec	12 Dec	4h	Tai
	Test HR Registration	9 Dec	12 Dec	4h	Minh
3	Release	21 Dec	22 Dec	H	All
	Project's Meeting	21 Dec	22 Dec	6h	All
	Final Release	22 Dec	22 Dec	3h	All

4. Cost

4.1 Resources

Full Name	Role	Salary Rate (USD / Hour)
Vo Van Minh	Scrum Master	2.0
Tran Duong Truong	Product Owner	2.0
Doan Ngoc Dat	Team Member	2.0
Ta Dinh Tai	Team Member	2.0

4.2 Total cost estimate

No.	Criteria	Price (USD)	Amount	Total (USD)
1	Working hour	2	2300	4600
2	Management cost	20%		920
Total				5232

5. Development Process

Principle and different stages

The SCRUM methodology relies on the incremental development of a software application while maintaining a completely transparent list of upgrade or correction demands to be implemented (backlog). It involves frequent deliveries, usually every four weeks, and the client receives a perfectly operational application that includes more and more features every time. This is why the method relies on iterative developments at a constant rhythm of 2-4 weeks. Upgrades can therefore be more easily integrated than when using a V-cycle.

This method requires four types of meetings:

- Daily meetings: the entire team meets for approximately 15 minutes every day in order to answer the following three questions, usually while standing: what did I do yesterday? What am I going to do today? Is there a cumbersome impediment today?
- Planning meetings: the entire team gathers to decide on the features that will make up the following sprint
- Work review meetings: during this meeting, every member presents what he has done during the sprint. They organize a demonstration of the new features or a presentation of the architecture. This is an informal meeting lasting for approximately 2 hours which is attended by the entire team.
- Retrospective meetings: at the end of each sprint, the team analyzes both successful and unsuccessful elements of their activity. During this meeting lasting between 15 and 30 minutes where everyone is invited and speaks on their behalf, a vote of confidence is organized to decide on the improvements to be made.

The advantage of this method consists in reducing the documentation to the minimum to gain productivity. The idea is to write only the minimum documentation which allows for saving the history of the decisions taken on the project and easily performing interventions on the software when it goes into the maintenance phase.

Agile - scrum organization

The SCRUM methodology involves the following three main players:

- Product owner: In most projects, the product owner is the leader of the client's project team. He is the one who will define and prioritize the product features and choose the date and content of each sprint based on the values (workloads) that the team communicates to him.

- Scrum Master: He is a genuine facilitator on the project as he makes sure that everyone works at their full potential by eliminating impediments and protecting the team from external interference. Moreover, he pays particular attention to the respect of the different SCRUM phases.
- Team: A team is typically made up of 4-10 people and groups together all the IT specialists who are necessary for a project, i.e. an architect, a designer, a developer, a tester, etc. The team is self-organizing and remains unchanged during an entire sprint.

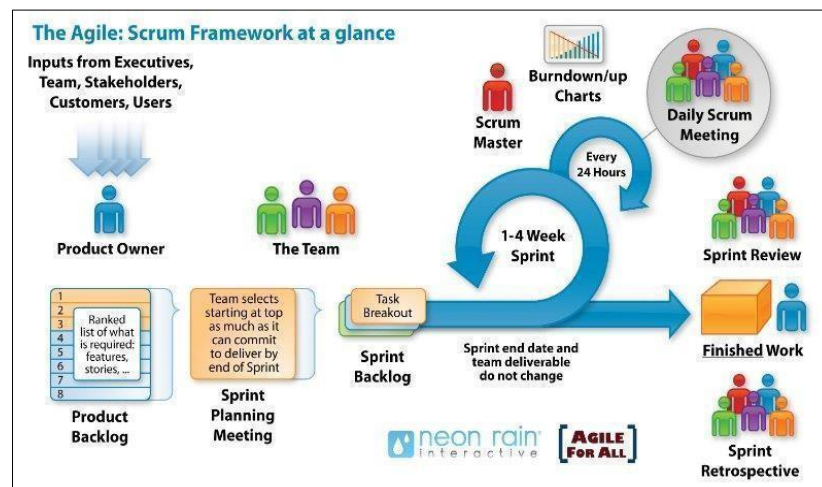


Figure 1: Scrum team members.

Agile - scrum advantages

Scrum differs from other development methods through its advantages which turn it into a pragmatic response to product owners' current needs:

Iterative and incremental method: this allows to avoid the "tunnel effect", i.e. the fact of seeing the result only at the final delivery, and nothing or almost nothing during the entire development phase, which is so frequent with V-cycle developments.

Maximum adaptability for product and application development: the sequential composition of the sprint content allows for the addition of a modification or a feature that was not initially planned. This is precisely what renders this method "agile".

- Participatory method: every team member is asked to express his opinions and can contribute to all the decisions taken on the project. He is therefore more involved and motivated.

- Enhancing communication: by working in the same development room or being connected through different communication means, the team can easily communicate and exchange opinions on the impediments to eliminate them as early as possible.
- Maximizing cooperation: daily communication between the client and the team enables them to collaborate more closely.
- Increasing productivity: as it removes certain "constraints" of the classical methods, such as documentation or exaggerated formalization, SCRUM allows for increased team productivity. By adding to this the qualification of each module which allows determining an estimation, everyone can compare their performance to the average team productivity.

Risks and solutions

The SCRUM methodology does not offer a universal answer to all the problems that are inherent to software development. Teams need to pay attention to the risks below, which, nevertheless, offer a systematic answer based on extrapolating the method:

- Team size: team size is typically limited to 7 or 10 people and can become an impediment if it exceeds these recommendations. In the latter case, the organization of meetings becomes impossible and the very foundations of the method are affected. The solution is to set up a Scrum of Scrums. This consists in dividing the project into teams of appropriate sizes and adding an instance of a higher level which groups together the Scrum Master of each Scrum.
- Multiple requests: Requests may be transmitted through several channels on a project and can sometimes be difficult to manage due to their contradictory aspects. These contradictions can slow down the delivery validation process. In order to solve this problem, it is vital to use a single request management tool, which is a standard option for projects.
- Development quality: The more the number of teams increases, the more difficult it becomes to deal with quality. This rule is all the more true when the project is distributed among several centers. The main risks are related to code quality and the number of bugs identified during integration. This is why it is important to have a rigorous quality policy and a project quality plan which precisely defines the rules

of the project. Frequent code audits and implementing indicators that measure the developers' performance allow for minimizing this risk.

6. Development Environment

Component	Development Environment
Operating system	<ul style="list-style-type: none"> - Windows - Linux
Development Tools	<ul style="list-style-type: none"> - Visual Studio Code - PyCharm - Termius
Database	<ul style="list-style-type: none"> - MongoDB
Client dependencies	<ul style="list-style-type: none"> - NodeJS: 18.x - NPM: 10.x - NestJs: 10.x - Python: 3.9
Server dependencies	<ul style="list-style-type: none"> - Python: 3.9
Third-party dependencies	<ul style="list-style-type: none"> - Source Code Version Control: GitHub

7. Communication & Reporting

7.1 Reporting methodology

Audience/ Attendees	Topic/ Deliverable	Frequency	Method
<ul style="list-style-type: none"> - Product Owner - Scrum Master - Team Members 	Project Progress Review	Weekly	Offline or Google Meet
<ul style="list-style-type: none"> - Product Owner - Scrum Master - Team Members 	Explicit Requirement	When needed	Offline, Google Meet, Slack
<ul style="list-style-type: none"> - Mentor - Scrum master - Team members 	Milestone review	End of each Milestone	Offline

- Scrum master - Team members	Daily tasks	Each day	Google Meet, Slack
----------------------------------	-------------	----------	-----------------------

8. Risks

In this part of the document contains several risks that could happen to the development team in the future. It also includes probability, severity, and mitigation strategies for each risk.

Risk	Definition	Probability	Severity	Mitigation Strategy
Lack of coding experiences	No one in the team member works with Python, NestJS, or ReactJS	M	M	Each team member has to learn and help the other to learn quickly.
Source Code conflict	Problems while merging code between members to the master branch	H	L	Each team member must resolve conflicts by using git merge CLI before merging to the master branch.
Change the technology used.	We need to change the technology being used to meet the required features.	M	H	Overtime
Time management	Every member has to go to work or school.	H	M	Overtime

9. Deliverables

No	Activities	Deliverables
1	Project Proposal	Project Proposal v1.0
2	Project Plan	Project Plan v1.0

3	Product Backlog	Product Backlog v1.0
---	-----------------	----------------------

10. Configuration management

No	Tool	Content
1	Trello	Monitor the activities of team members and the progress of tasks assigned to them. Summarize and review the progress of each task.
2	Google Drive	Archive all project documents. Change and manage the versions of each document.
3	GitHub	Store and manage the project repositories, manage branches, pull requests, and issues submitted by team members
4	Weekly Meetings	Hold a meeting every week to assign tasks to each member.
5	Document	All meetings must be documented and pictured.
7	Slack	Communication tools for the team and members, storing references or documentation regarding technology, the project, etc.
8	Google Meet	Discuss online, stream and share problems

11. References

- <https://slack.com>
- <https://meet.google.com>
- <https://github.com>
- <https://drive.google.com>

12. Attachment

https://drive.google.com/drive/folders/1RZtmGyhkQ0eHeKxCpVgUtui4NJL1_eii?usp=sharing